

Pest Alert

Redbud Seed Beetle

Gibbobruchus mimus

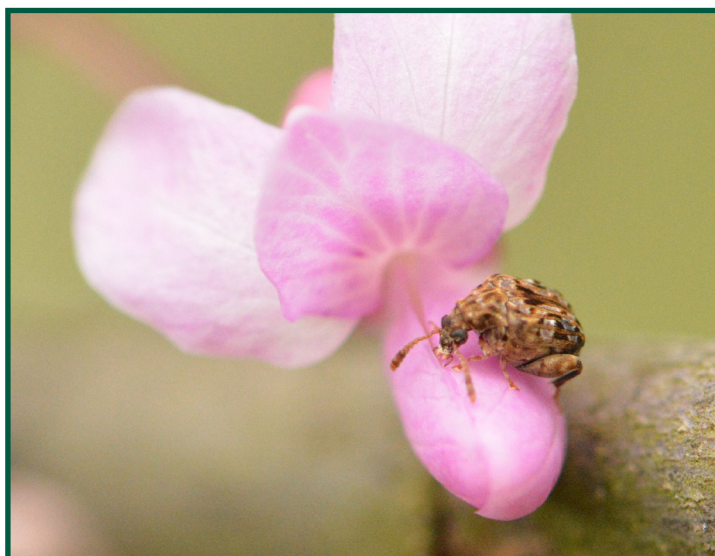


Figure 1.—Redbud seed beetle (*Gibbobruchus mimus*). USDA Forest Service photo by Craig Larcenaire.

The redbud seed beetle (RSB) is a native insect that feeds on the seeds of eastern redbud, *Cercis canadensis* as a larva. This beetle has been observed throughout a significant portion of the redbud range.

Larval feeding creates black streaks on seedpods. Round exit holes appear in mature seedpods when adult beetles emerge. This damage is highly variable but can affect a majority of *C. canadensis* seedpods when RSB populations are high.

Hosts

Eastern redbud is the preferred host of RSB, though the beetle is reported to consume other *Cercis* species, such as the native western redbud, *C. occidentalis*, and non-native Chinese redbud (*C. chinensis*) and chain-flowered redbud (*C. racemosa*). Additionally, RSB has been reported visiting the flowers of distantly related plants—including non-native burning bush (*Euonymus alatus*) and Siebold's

Figure 2.—Redbud seed beetle egg developing on margin of a seedpod. USDA Forest Service photo by Craig Larcenaire.



viburnum (*Viburnum sieboldii*), as well as native umbrella magnolia (*Magnolia tripetala*), moss phlox (*Phlox subulata*), maypop (*Passiflora incarnata*), and anacacho orchid tree (*Bauhinia lunarioides*)—however, we do not know if these visits had any meaningful biological significance.

Description

The adult beetle is brown and cream with a checkered pattern (figure 1). It is 1.5 to 2 mm long and has a round shape. Males and females can be determined by the posterior appearance—females have a smooth, swollen posterior, while males are covered with fine hair-like projections.

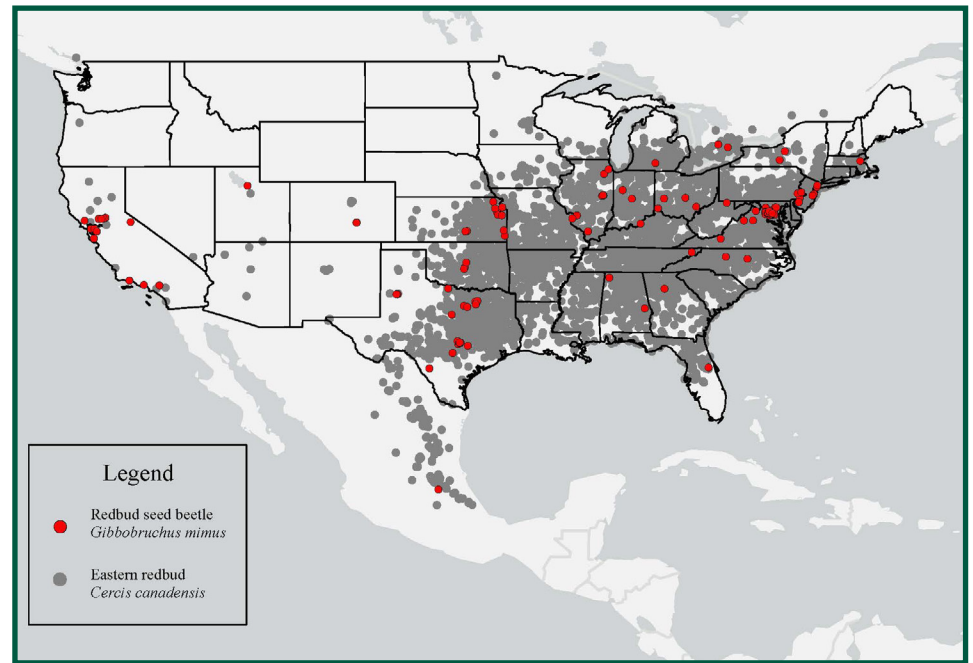
Life History

In early summer, the RSB lays eggs, individually or in small clusters of 2–3 eggs, on the ribs of green (not fully mature) seedpods (figure 2). Larvae have two instars and develop inside the seedpods where they feed on the redbud seeds (figure 3). The larvae pupate within the seedpod; in the fall, mature beetles emerge after chewing a round exit hole through the seedpod wall. RSB overwinters in the adult beetle stage.



Figure 3.—Feeding gallery damage caused by larvae. USDA Forest Service photo by Craig Larcenaire.

Figure 4.—North American range of eastern redbud and the redbud seed beetle as reported to the Global Biodiversity Information Facility (GBIF). USDA Forest Service map by Craig Larcenaire.



Control

Due to the nature of the damage this insect causes, no chemical control method is currently available. There are, however, several species of eupelmid, pteromalid, and braconid parasitoid wasps that utilize RSB eggs and larvae. If the insect becomes more problematic for eastern redbud reproduction in the future, additional control methods could be identified.

Distribution

The native range of eastern redbud covers eastern North America, from the southernmost areas of Canada reaching through the Eastern United States and down into eastern

Mexico. It is believed the RSB is found throughout the tree's range (figure 4).

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References & Resources

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